**U S WEST, Inc.**
Suite 700
1020 Nineteenth Street, NW
Washington, DC 20036
202 429-3136
FAX 202 296-5157

**Kenneth T. Cartmell**
Executive Director - Federal Regulatory

99-6

USWEST

February 18, 1999

Mr. Dale Hatfield
Chief, Office of Engineering and Technology
Federal Communications Commission
2000 M Street, NW, Room 480
Washington, DC 20554

RE: CC Docket No. 91-273
Final Service Disruption Report, Phoenix Mid River, AZ
PHNXAZMRCG0

Dear Mr. Hatfield:

On January 18, 1999, U S WEST Communications ("USWC") experienced a service outage in Phoenix Mid River, AZ. In accordance with the reporting rules, enclosed is USWC's Final Disruption Report for this outage.

Please contact me if you have questions concerning this report.

Sincerely,

Kenneth T. Cartmell

Attachment

cc: Mr. Richard Smith
Mr. Robert Kimball

# Final Service Disruption Report

**Reporting Company:** U S WEST Communications ("US WEST")

**Location of Disruption:** Phoenix Mid River, Arizona (PHNXAZMRCG0)

---

1. **Date and Time of Incident**:
January 18, 1999 at 1011 MST

**2. Geographic Area Affected:**
Phoenix Mid River, AZ area

**3. Estimated Number of Customers Affected:**
51,754 customers were affected by the outage.

**4A. Types of Services Affected:**
Interoffice, Intraoffice and 911 were affected.

**4B. 911 Service Affected:**
911 was impacted for Phoenix Mid River, AZ. The end office trunks were isolated from the 911 tandem, and customers attempting to reach 911 did not have dial tone.

**5. Duration of Outage:**
Service was restored at 1058 MST. Total duration of the outage was 46 minutes, 53 seconds.

**6. Estimated Number of Blocked Calls:**
There were 19,720 blocked calls.

**7A. Root Cause of the Incident:**
The root cause of the incident was a trunk translations procedural error.

On January 18, 1999, the Network Management Center (NMC) received a report that the Phoenix Mid Rivers central office (CO) had suffered a dual "A" failure and was toll isolated. Contact with the CO revealed that the office had lost dial tone. A CO Technician was dispatched to the office to perform a manual phase. The Phase 5 was completed at 1059 MST and F-level interrupts were manually inhibited to prevent a recurrence.

Investigation showed that trunks in the CO had been assigned to a Digital Carrier Trunk (DCT) frame associated with Peripheral Unit Controllers (PUCs) which were in "growth" status. This frame had not been fully integrated into the system. When traffic hit the trunks, service interrupts occurred.

**7B. Name and Type of Equipment:**
1AESS, Lucent Technologies Switch

**7C. Specific Part of Network Affected:**
Central Office call processing

**8. Method(s) Used to Restore Service:**
A manual Phase 5 restoration was performed and the office recovered.

**9. Steps Taken to Prevent Recurrence of Outage:**

- All trunks associated with the frame in growth status were identified and removed.
- Technical Support has incorporated additional steps into US WEST's practices to ensure that the Trunk Translations group verifies the status of the DCT frame, prior to assigning trunks to it. Technical Support has distributed copies of the practice and covered the Trunk Translations group on its implementation.

**10A. Applicable Best Practice(s):**
U S WEST reviewed *Network Reliability: A Report to the Nation*, June 1993 and evaluated all recommendations and best practices by focus area. Based on the root cause analysis, the most appropriate focus areas are:

Section B - Signaling Network Systems
Reference 6.1.1 - Root Cause Analysis

Section C – Software and Switching System Reliability
5.4.3 – 3A Formal Root Cause Analysis

**10B. Best Practice(s) Used:**

Section C – Software and Switching System Reliability
5.4.3 – 3A Formal Root Cause Analysis

**10C. Analysis of Effectiveness of Best Practice(s):**

This recommendation is specific to Signaling Networks, but US WEST requires a root cause analysis on any significant network failure.

Section C – Software and Switching System Reliability
Reference 5.4.3-3A This reference recommends that a formal root cause analysis process be used to investigate the outage. US WEST requires a root cause analysis on any significant network failure.

**Contact Person:**
Ken Cartmell, Executive Director - Federal Regulatory
U S WEST
1020 19th Street, NW, Suite 700
Washington, D.C. 20036
Telephone (202) 429-3136